



RESEARCH, DEVELOPMENT and TECHNOLOGY TRANSFER QUARTERLY PROGRESS REPORT (QPR)

Wisconsin Department of Transportation (WisDOT)
DT1241 5/2014

INSTRUCTIONS:

Research principal investigators and/or project managers should complete a quarterly progress report (QPR) for each calendar quarter during which the projects are active.

WisDOT Research Program Category <input type="checkbox"/> Policy Research <input checked="" type="checkbox"/> Wisconsin Highway Research Program <input type="checkbox"/> Other: _____		Report Period (enter year and check which quarter) Year: <u>2014</u> <input type="checkbox"/> Quarter 1 (Jan 1 – Mar 31) <input type="checkbox"/> Quarter 3 (Jul 1 – Sep 30) <input type="checkbox"/> Quarter 2 (Apr 1 – Jun 30) <input checked="" type="checkbox"/> Quarter 4 (Oct 1 – Dec 31)	
Project Title Analysis and Feasibility of Asphalt Pavement Performance-Based Testing Specifications for the WisDOT		WisDOT Project ID 0092-15-04	
Principal Investigator Name Hussain Bahia	Project Oversight Committee Chair Name Barry Paye & Michelle Colling	Project Start Date (m/d/yyyy) 9/26/2014	
(Area Code) Telephone Number 608-265-4481	(Area Code) Telephone Number 920-366-1261 & 920-757-7580	Original End Date (m/d/yyyy) 3/26/2016	
Email Address bahia@engr.wisc.edu	Email Address barry.paye@dot.wi.gov & MColling@crmanagement.com	Current End Date (m/d/yyyy) 3/26/2016	

Project Schedule Status (check one)

☒ On Schedule ☐ On Revised Schedule ☐ Ahead of Schedule ☐ Behind Schedule

Project Budget Status

Total Project Budget	Expenditures Current Quarter	Total Expenditures	% Funds Expended	% Work Completed
\$199,998.00	\$15,915.13	\$15,915.13	8	8

Project Description

* This project is about developing a performance-based acceptance framework that applies to both mixture design and quality control/acceptance during production and further to assess the feasibility of implementing this framework into current WisDOT practice. The main objectives of this project are to develop criteria for selection of candidate test methods to be used in the performance-based HMA evaluation framework and to identify and validate surrogate measures of performance and acceptance testing. It also quantifies the benefits and identifies the challenges of implementing a performance-based framework of mix acceptance through comparison of outcomes to current practice. Based on these results, revisions to WisDOT specifications and introduction of new test methods to better relate mixture design and acceptance testing to in-service performance will be recommended.

Progress This Quarter (includes meetings, work plan status, contract status, significant progress, etc.)

* The contract was signed this quarter and contractual work with the sub-contracting partner was completed this quarter. In this quarter the project kick-off meeting was held with project oversight committee followed by another meeting with POC 2 weeks later in order to get the project started. The review process for selection of the technical criteria for evaluation of candidate test methods was nearly completed. As results of POC kick off meeting a list of criteria was suggested to be used for selecting candidate test methods. The research team asked TOC members to evaluate the suggested criteria based on an implementation focus of the mix design process and the results of the TOC ranking was presented as following dividing the criteria in three tiers:

	Average ranking	St. Dev.	Range
1. Standardized Test Procedure	2.5	1.1	1-6
2. Critical pavement distresses experienced in WI	3.0	1.8	1-6
3. WisDOT Initiatives	3.3	1.6	1-5
4. Prior WisDOT experience with test	4.1	1.9	2-7
5. Specified by other state agencies	4.4	1.1	3-6
6. Availability of Precision and Bias statement	4.6	2.1	2-7
7. Cost & Labor Intensiveness	5.8	1.4	4-7

The research team will use importance levels as it was shown in the ballot results with simple statistical techniques to assign the weight factors for each criterion. In this quarter the preliminary literature review was done on identifying the potential test methods that can be used in different categories of Modulus, Permanent Deformation, Load Associated Cracking, Thermal Cracking and Moisture Sensitivity.

Anticipated Work Next Quarter

* Next quarter the team will complete the review of the all current literature on the identified test methods in each aforementioned performance field tier with regard to the seven selection criteria identified in first quarter. The POC will be consulted to discuss possible options in finalizing the selection of test methods which will be included in the work plan for developing the framework, thus completing both "Task 1" and "Task 2" in the work plan. The team will present project memorandum and interim presentation with results from finalizing the work plan at full TOC meeting. Laboratory work is expected to begin later next quarter.

Circumstances Affecting Project or Budget

* None.

Attach / Insert Gantt Chart and Other Project Documentation

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Task	Quarter						
	1	2	3	4	5	6	7
	10/14-12/14	1/15-3/15	4/15-6/15	7/15-9/15	10/15-12/15	1/16-3/16	4/16-6/16
1. Synthesis of Current Research	M1						
2. Work Plan Development							
3. Interim Presentation and Project Memorandum		D1,M2					
4. Execution of Work Plan and Analysis of Results							
5. Project Deliverables						D2	
6. Project Closeout							D3,M3

(*enter text)

For WisDOT Use Only	
Staff Receiving QPR J. Walejko	Date Received (m/d/yyyy) 1/9/2015
Staff Approving QPR Barry Paye	Date Approved (m/d/yyyy) 2/26/2015